

IFW



696-267A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
PATENT OPERATION

In re Application of:

Shyh-Yuan Henry Hwang

Serial No.: 10/804,459

Group Art Unit: 1764

Filed : March 19, 2004

Examiner: Not yet known.

For: PRODUCTION OF ALKYL AROMATIC  
COMPOUNDS WITH CATALYST REACTIVATION

New York, NY 10036  
October 29, 2004

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22213-1450

**INFORMATION DISCLOSURE STATEMENT**

Sir:

The following statement of relevance is submitted with the accompanying Form  
PTO/SB/08A.

Document  
Designation

Relevance

AA  
(U.S. 4,954,325)

Relates to a composition of synthetic porous  
crystalline material, its synthesis and use.

I hereby certify that this correspondence is being deposited  
with the United States Postal Service as first class mail in  
an envelope addressed to:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22213-1450

on October 29, 2004

Alan B. Clement, Reg. No. 34,563

<b>AB</b> (U.S. 4,992,606)	Relates to process for preparing short chain alkyl aromatic compounds.
<b>AC</b> (U.S. 5,077,445)	Relates to liquid phase alkylbenzene synthesis using hydrated catalyst.
<b>AD</b> (U.S. 5,334,795)	Relates to production of ethylbenzene.
<b>AE</b> (U.S. 5,900,520)	Relates to aromatics alkylation.
<b>AF</b> (U.S. 5,250,277)	Relates to crystalline oxide material.
<b>AG</b> (U.S. 5,292,698)	Relates to catalyst comprising MCM-36.
<b>AH</b> (U.S. 5,258,565)	Relates to a process for preparing short chain alkylaromatic compounds.
<b>AI</b> (U.S. 5,236,575)	Relates to synthetic porous crystalline MCM-49, its synthesis and use.
<b>AJ</b> (U.S. 5,493,065)	Relates to liquid phase ethylbenzene synthesis with MCM-49.
<b>AK</b> (U.S. 5,371,310)	Relates to process for preparing short chain alkyl aromatic compounds.
<b>AL</b> (U.S. 5,362,697)	Relates to synthetic layered MCM-56, its synthesis and use.
<b>AM</b> (U.S. 5,453,554)	Relates to process for preparing short chain alkyl aromatic compounds.
<b>AN</b> (U.S. 5,536,894)	Relates to MCM-56 as sorbent and catalyst component.
<b>AO</b> (U.S. 5,557,024)	Relates to process for preparing short chain alkyl aromatic compounds.

<b>AP</b> (U.S. 6,051,521)	Relates to method of producing an aromatic alkylation catalyst.
<b>AQ</b> (U.S. 5,437,855)	Relates to synthetic porous crystalline MCM-58, its synthesis and use.
<b>AR</b> (U.S. 5,569,805)	Relates to catalytic conversion of aromatic compounds.
<b>AS</b> (U.S. 6,049,018)	Relates to synthetic porous crystalline MCM-68, its synthesis and use.
<b>AT</b> (U.S. 5,563,311)	Relates to process for preparing short chain alkyl aromatic compounds.
<b>AU</b> (U.S. 5,081,323)	Relates to liquid phase alkylation or transalkylation process using zeolite beta.
<b>AV</b> (U.S. 5,160,497)	Relates to phenol production process.
<b>AW</b> (U.S. 5,240,889)	Relates to hydrated alkylation catalyst.
<b>AX</b> (U.S. 5,030,786)	Relates to liquid phase aromatic conversion process.
<b>AY</b> (U.S. 5,980,859)	Relates to modified zeolite beta processes for preparation.
<b>AZ</b> (U.S. 5,522,984)	Relates to modified zeolite beta, processes for preparation and use thereof.
<b>BA</b> (U.S. 5,672,799)	Relates to process for the preparation of cumene.
<b>BB</b> (U.S. 5,907,073)	Relates to aromatic alkylation process.
<b>BC</b> (U.S. 6,162,416)	Relates to zeolite beta and its use in aromatic alkylation.

<b>BD</b> (U.S. 5,198,595)	Relates to alkylation of aromatic compounds.
<b>BE</b> (U.S. 5,689,025)	Relates to ethylbenzene production process with ex situ selectivated zeolite catalyst.
<b>BF</b> (U.S. 5,157,185)	Relates to alkylation of aromatics.
<b>BG</b> (U.S. 3,751,504)	Relates to vapor-phase alkylation in presence of crystalline aluminosilicate catalyst with separate transalkylation.
<b>BH</b> (U.S. 4,547,605)	Relates to catalyst for alkylation of aromatic hydrocarbons.
<b>BI</b> (U.S. 4,016,218)	Relates to alkylation in presence of thermally modified crystalline aluminosilicate catalyst.
<b>BJ</b> (U.S. 4,169,111)	Relates to manufacture of ethylbenzene.
<b>BK</b> (U.S. 4,459,426)	Relates to liquid-phase alkylation and transalkylation process.
<b>BL</b> (U.S. 5,021,141)	Relates to synthesis of crystalline ZSM-12 type structure.
<b>BM</b> (U.S. 5,430,211)	Relates to process of preparing ethylbenzene or substituted derivatives thereof.
<b>BN</b> (U.S. 4,891,458)	Relates to liquid phase alkylation or transalkylation process using zeolite beta.
<b>BO</b> (U.S. 6,060,632)	Relates to process for producing ethylbenzene.
<b>BP</b> (U.S. 4,849,569)	Relates to alkylation of organic aromatic compounds.

<b>BQ</b> (U.S. 4,950,834)	Relates to alkylation of organic aromatic compounds in a dual bed system.
<b>BR</b> (U.S. 5,086,193)	Relates to aromatic alkylation process.
<b>BS</b> (U.S. 5,113,031)	Relates to aromatic alkylation process.
<b>BT</b> (U.S. 5,215,725)	Relates to aromatic alkylation process.
<b>BU</b> (U.S. 5,902,917)	Relates to alkylaromatics production.
<b>BV</b> (U.S. 6,096,935)	Relates to production of alkyl aromatics by passing transalkylation effluent to alkylation zone.
<b>BW</b> (U.S. 6,232,515)	Relates to production of ethyl aromatics by passing portions of transalkylation effluent to a multi-bed alkylation zone.
<b>BX</b> (U.S. 6,281,399)	Relates to production of isopropyl aromatics by passing portions of transalkylation effluent to a multi-bed alkylation zone.
<b>BY</b> (U.S. 6,313,362)	Relates to aromatic alkylation process.
<b>BZ</b> (U.S. 6,479,721)	Relates to alkylation process operating at low olefin ratios.
<b>CA</b> (U.S. 4,086,287)	Relates to selective ethylation of mono alkyl benzenes.
<b>CB</b> (U.S. 4,104,319)	Relates to ethylation of mono alkyl benzene.
<b>CC</b> (U.S. 4,143,084)	Relates to di-alkylbenzene isomer mixtures.
<b>CD</b> (U.S. 4,982,030)	Relates to process for preparation of para-divinylbenzene.

<b>CE</b> (U.S. 4,100,217)	Relates to selective production of para-substituted benzenes.
<b>CF</b> (U.S. 4,117,020)	Relates to method of producing valuable alkylated aromatic hydrocarbons from tar.
<b>CG</b> (U.S. 5,530,170)	Relates to ethylbenzene alkylation with ethylene to produce para-diethylbenzene.
<b>CH</b> (U.S. 5,811,613)	Relates to process for the production of para-diethylbenzene.
<b>CI</b> (U.S. 4,822,943)	Relates to production of para-diisopropylene.
<b>CJ</b> (U.S. 5,004,841)	Relates to alkylation of aromatic compounds to alkylates enriched in the linear-substituted isomers.
<b>CK</b> (U.S. 5,175,135)	Relates to alkylation of aromatic compounds to alkylates enriched in the linear substituted isomers.
<b>CL</b> (U.S. 3,851,004)	Relates to hydrocarbon alkylation process using catalyst regeneration.
<b>CM</b> (U.S. 4,049,739)	Relates to simulated moving bed alkylation process.
<b>CN</b> (U.S. 4,857,666)	Relates to alkylation/transalkylation process.
<b>CO</b> (U.S. 4,908,341)	Relates to method for reactivating spent catalyst by contact with one or more aromatic compounds.
<b>CP</b> (U.S. 5,012,021)	Relates to process for the production of alkylaromatic hydrocarbons using solid catalysts.
<b>CQ</b> (U.S. 5,118,897)	Relates to reactivation of alkylation catalysts.

<b>CR</b> (U.S. 5,146,026)	Relates to alkylation of aromatic hydrocarbons in fixed bed catalytic process.
<b>CS</b> (U.S. 5,212,128)	Relates to method for recovering or maintaining the activity of hydroisomerization catalysts.
<b>CT</b> (U.S. 5,306,681)	Relates to method for recovery or maintaining the activity of hydroisomerization catalysts.
<b>CU</b> (U.S. 6,525,234)	Relates to process for liquid phase aromatics alkylation comprising in-situ catalyst reactivation with polar compounds.
<b>DA</b> (EP 0 353 813)	Relates to alkylation of aromatic hydrocarbons in a fixed bed catalytic process.
<b>DB</b> (EP 0 467 007)	Relates to transalkylation process.
<b>DC</b> (WO 03/006160)	Relates to reactivation of aromatics alkylation catalysts.
<b>DD</b> (WO 02/062734)	Relates to production of alkylaromatic compounds.
<b>DE</b> (WO 01/83408)	Relates to regeneration of aromatic alkylation catalysts using hydrocarbon stripping.
<b>DF</b> (WO 02/26671)	Relates to maximizing meta-isomers in the production of dialkylbenzene compounds.
<b>DG</b> (JP 56,133,224)	Relates to preparation of dialkylbenzene isomeric mixture.

It is respectfully requested that this art be considered by the Examiner in the above-entitled application and made of record therein. Copies of non-United States prior art references are enclosed. It is believed that no fee is required for submission of this Information Disclosure Statement under 37 C.F.R. §1.97(b). However, if a fee is due, the Commissioner is hereby authorized to charge Deposit Account No. 08-1540.

Respectfully submitted,

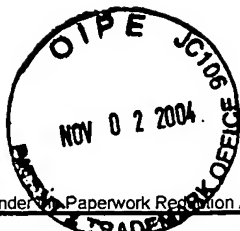
A handwritten signature in black ink, appearing to read 'A B Clement', with a stylized flourish at the end.

Alan B. Clement  
Reg. No. 34,563

**MAILING ADDRESS**

HEDMAN & COSTIGAN, P.C.  
1185 Avenue of the Americas  
New York, NY 10036  
(212) 302-8989





PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 4

**Complete if Known**

Application Number	10/804,459
Filing Date	3/19/2004
First Named Inventor	Shyh-Yuan H. HWANG
Art Unit	1764
Examiner Name	Not yet known.
Attorney Docket Number	696-267A

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AA	US- 4,954,325	09/04/1990	Rubin	
	AB	US- 4,992,606	02/12/1991	Kushnerick et al.	
	AC	US- 5,077,445	12/31/1991	Le	
	AD	US- 5,334,795	08/02/1994	Chu et al.	
	AE	US- 5,900,520	05/04/1999	Mazzone et al.	
	AF	US- 5,250,277	10/05/1993	Kresge et al.	
	AG	US- 5,292,698	03/08/1994	Chu et al.	
	AH	US- 5,258,565	11/02/1993	Kresge et al.	
	AI	US- 5,236,575	08/17/1993	Bennett et al.	
	AJ	US- 5,493,065	02/20/1996	Cheng et al.	
	AK	US- 5,371,310	12/06/1994	Bennett et al.	
	AL	US- 5,362,697	11/08/1994	Fung, et al.	
	AM	US- 5,453,554	09/26/1995	Cheng, et al.	
	AN	US- 5,536,894	07/16/1996	Degnan, et al.	
	AO	US- 5,557,024	09/17/1995	Cheng, et al.	
	AP	US- 6,051,521	04/18/2000	Cheng, et al.	
	AQ	US- 5,437,855	08/01/1995	Valyocsik	
	AR	US- 5,569,805	10/29/1996	Beck, et al.	
	AS	US- 6,049,018	04/11/2000	Calabro et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
	DA	EP 0 353 813 B1	02-07-1990	Tejera et al.		
	DB	EP 0 467 007 B1	01-22-1992	Butler		
	DC	WO 03/006160 A1	01-23-2003	Dandekar et al.		
	DD	WO 02/062734 A1	08-15-2002	Chen et al.		
	DE	WO 01/83408 A1	11-08-2001	Dandekar et al.		
	DF	WO 02/26671 A1	04-04-2002	Chen et al.		

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2

of

4

**Complete if Known**

Application Number	10/804,459
Filing Date	03/19/2004
First Named Inventor	Shyh-Yuan H. HWANG
Art Unit	1764
Examiner Name	Not yet known.
Attorney Docket Number	696-267A

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AT	US- 5,563,311	10/08/1996	Chang, et al.	
	AU	US- 5,081,323	01/14/1992	Innes, et al.	
	AV	US- 5,160,497	11/03/1992	Juguin, et al.	
	AW	US- 5,240,889	08/31/1993	West, et al.	
	AX	US- 5,030,786	07/09/1991	Shamshoum, et al.	
	AY	US- 5,980,859	11/09/1999	Gajda, et al.	
	AZ	US- 5,522,984	06/04/1996	Gajda, et al.	
	BA	US- 5,672,799	09/30/1997	Perego, et al.	
	BB	US- 5,907,073	05/25/1999	Ghosh	
	BC	US- 6,162,416	12/19/2000	Gajda, et al.	
	BD	US- 5,198,595	03/30/1993	Lee et al.	
	BE	US- 5,689,025	11/18/1997	Abichandani, et al.	
	BF	US- 5,157,185	10/20/1992	Chu et al.	
	BG	US- 3,751,504	08/07/1973	Keown, et al.	
	BH	US- 4,547,605	10/15/1985	Kresge, et al.	
	BI	US- 4,016,218	04/05/1977	Haag, et al.	
	BJ	US- 4,169,111	09/25/1979	Wight	
	BK	US- 4,459,426	07/10/1984	Inwood, et al.	
	BL	US- 5,021,141	06/04/1991	Rubin	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
	DG	JP 56,133,224	10-19-1981	Tetsuo et al.		

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 3 of 4

**Complete if Known**

Application Number	10/804,459
Filing Date	03/19/2004
First Named Inventor	Shyh-Yuan H. HWANG
Art Unit	1764
Examiner Name	Not yet known.
Attorney Docket Number	696-267A

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	BM	US- 5,430,211	07/04/1995	Pogue, et al.	
	BN	US- 4,891,458	01/02/1990	Innes, et al.	
	BO	US- 6,060,632	05/09/2000	Takamatsu, et al.	
	BP	US- 4,849,569	07/18/1989	Smith, Jr.	
	BQ	US- 4,950,834	08/21/1990	Arganbright, et al.	
	BR	US- 5,086,193	02/04/1992	Sy	
	BS	US- 5,113,031	05/12/1992	Sy	
	BT	US- 5,215,725	06/01/1993	Sy	
	BU	US- 5,902,917	05/11/1999	Collins, et al.	
	BV	US- 6,096,935	08/01/2000	Schulz, et al.	
	BW	US- 6,232,515	05/15/2001	Schulz, et al.	
	BX	US- 6,281,399	08/28/2001	Schulz, et al.	
	BY	US- 6,313,362	11/06/2001	Green, et al.	
	BZ	US- 6,479,721	11/12/2002	Gajda, et al.	
	CA	US- 4,086,287	04/25/1978	Kaeding, et al.	
	CB	US- 4,104,319	08/01/1978	Kaeding	
	CC	US- 4,143,084	03/06/1979	Kaeding, et al.	
	CD	US- 4,982,030	01/01/1991	Kaeding, et al.	
	CE	US- 4,100,217	07/11/1978	Young	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 4

of

4

**Complete if Known**

Application Number	10/804,459
Filing Date	03/19/2004
First Named Inventor	Shyh-Yuan H. HWANG
Art Unit	1764
Examiner Name	Not yet known.
Attorney Docket Number	696-267A

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	CF	US- 4,117,020	09/26/1978	Sun	
	CG	US- 5,530,170	06/25/1996	Beck, et al.	
	CH	US- 5,811,613	09/22/1998	Bhat, et al.	
	CI	US- 4,822,943	04/18/1989	Burress	
	CJ	US- 5,004,841	04/02/1991	Lee, et al.	
	CK	US- 5,175,135	12/29/1992	Lee, et al.	
	CL	US- 3,851,004	11/26/1974	Yang	
	CM	US- 4,049,739	09/20/1977	Zabransky, et al.	
	CN	US- 4,857,666	08/15/1989	Barger, et al.	
	CO	US- 4,908,341	03/13/1990	Pruden, et al.	
	CP	US- 5,012,021	04/30/1991	Vora, et al.	
	CQ	US- 5,118,897	06/02/1992	Khonsari, et al.	
	CR	US- 5,146,026	09/08/1992	Tejero, et al.	
	CS	US- 5,212,128	05/18/1993	Schorfheide, et al.	
	CT	US- 5,306,681	04/26/1994	Schorfheide, et al.	
	CU	US- 6,525,234	02/25/2003	Dandekar, et al.	
		US-			
		US-			
		US-			

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.